

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2005/000306

International filing date (day/month/year)
08.02.2005

Priority date (day/month/year)
12.02.2004

International Patent Classification (IPC) or both national classification and IPC
C04B28/02, C04B40/00

Applicant
ITALCEMENTI S.P.A.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/000306

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/000306

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	-
Inventive step (IS)	Yes: Claims	1-8
	No: Claims	-
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	-

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)
and / or
2. Non-written disclosures (Rules 43bis.1 and 70.9)
see form 210

Re Item V.

- 1 Reference is made to the following document:
**D1 : DE 197 04 066 A1 (GEBA MBH GESELLSCHAFT FUER
BAUWERKINSTANDSETZUNG, 99998 KOERNER, DE; G) 6 August 1998**
- 2 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):
A dry mix for producing an old material-compatible mortar, preferably for monument preservation and historic building restoration, consists of 1 wt. part anhydrite binder and, as aggregate, 0.5-3 wt. parts crushed gypsum/anhydrite sand or a mixture of this sand with up to 60% quartz sand. Preferably, the anhydrite binder is a heat treated flue gas desulphurisation gypsum containing an activator salt (e.g. K_2SO_4) or base (e.g. $Ca(OH)_2$) and has an average chemical composition of greater than 92% $CaSO_4$, less than 2% SiO_2 , less than 1% free CaO and less than 0.01% Cl. Preferably, the mix contains 0.5-2 wt. parts aggregate, when used to produce an exterior plaster mortar for wet spray application, or 1-3 wt. parts aggregate, when used to produce wall mortar (col. 1, line 64 - col.2, line 28).
From this, the subject-matter of independent claim 1 differs in that the aggregate is made up of two fractions having different grain sizes and the ratio between the characteristic grain diameters of the two fractions of aggregates is comprised between 2.2 and 3.2. Further, the mortar is used in the production of cementitious products by means of pouring in foundry moulds.
 - 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).
The problem to be solved by the present invention may be regarded as the provision of an alternative cementitious mortar with increased consolidation speed.
 - 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: the grain size distribution of the aggregate comprising 2 fraction with a ratio of between 2.2 and 3.2 between the characteristic grain diameters apparently solves the problem posed in a surprising manner, increasing the fluidity of the mortars by 2-3 times, compared to those

of mortars produced with the traditional granulometric distribution of the aggregates, without modifying the water/cement ratio or the amount of fluidifiers used.

2.3 Claims 2-8 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

3 The subject-matter of the present set of claims relates to dry cementitious premixes, mortar compositions and methods for preparing them, thereby fulfilling the requirements of Article 33(1) PCT with respect to industrial applicability (Article 33(4) PCT).